

TOPCHIIYEV, A.V., akademik, glavnyy redaktor; PETROV, B.N., otvetstvennyy redaktor; AYZERMAN, M.A., redaktor; BERNSHTEYN, S.I., redaktor; VASIL'YEV, R.V., redaktor; IVANOV, V.I., redaktor; KARAGODIN, V.M., redaktor; KOGAN, B.Ya., redaktor; LETOV, A.M., redaktor; PORTNOV-SOKOLOV, Yu.P., redaktor; SOLODOVNIKOV, V.V., redaktor; ULANOV, G.M., redaktor; TSUPKIN, Ya.Z., redaktor; KRUTOVA, I.N., redaktor; ASTAF'YEVA, G.A., tekhnicheskij redaktor

[A session of the Academy of Sciences of the U.S.S.R. on scientific problems in automatization of production, October 15-20, 1956; principal problems of automatic control] Sessiya Akademii nauk SSSR po nauchnym problemam avtomatizatsii proizvodstva, 15-20 oktiabria 1956 g.: osnovnye problemy avtomaticheskogo regulirovaniia i upravleniia. Moskva, 1957. 334 p. (MLRA 10:5)

1. Akademiya nauk SSSR. 2. Chlen-korrespondent AN SSSR. (for Petrov)
(Automatic control)

SOLODOVNIKOV, V.V.

PA - 3224

AUTHOR
TITLE

BATKOV A.M., SOLODOVNIKOV V.V.
The Method of Determining Optimum Characteristics of a Certain
Class of Self-Adaptive Control Systems.
(Metod opredeleniya optimal'nykh kharakteristik odnogo klassa
samonastraiwayushohikhsya sistem.- Russian)
Avtomatika i Telemekhanika 1957, Vol 18, Nr 5, pp 377-391
(USSR)

PERIODICAL:

Reviewed: 7/1957

ABSTRACT

Received: 6/1957

The paper under review presents a method for the determination of the impulse transition function of a system with variable parameters. The parameters vary in accordance with the current values of the intelligence signal and the correlation function of the squares of the dynamic and mean square errors has a minimum. For this purpose, an integral equation which determines the conditions for this minimum is derived and solved. As criterion for an optimal performance of dynamic systems of the class investigated it is possible, from the point of view dynamic accuracy, to select

$$E^2 = \int_{m_q}^2 (t) + \lambda^2 (t) \int_d^2 (t) - \min \text{ in any arbitrary}$$

moment.

CARD 1/2

25-6-9/46

SUBJECT: USSR/Cybernetics

AUTHOR: Solodovnikov, V.V., Doctor of Technical Sciences, Professor

TITLE: Cybernetics (Kibernetika)

PERIODICAL: Nauka i Zhizn' - June 1957, ⁴⁴# 6, pp 18-22 (USSR)

ABSTRACT:

The object of cybernetics is to analyze the general principles and laws of control and communication that are necessary for the completion of purposeful actions based on transmission, transformation, and utilization of information both in living organisms and in machines. Technical cybernetics is interested in analyzing informative processes in machines that change their actions based on former experience, i.e. adapt themselves to surrounding conditions. Thus living organisms and automatically controlled machines are identical in so far as they function on previously collected information. One of the main problems of technical cybernetics is the development of machines which more and more will imitate the complex functions of the human brain. The article contains 5 pictures.

Card 1/2

20-2-19/60

On the Optimal Characteristics of a Class of Self-Tuning Dynamic Systems
With Variable Parameters

$E^2(t) = \varepsilon_d^2(t) + \varepsilon_{mq}^2(t) \lambda^2(t)$ must be a minimum in an arbitrary moment t , and simultaneously the condition of the physical realizability $k(t, \tau) = 0, t < \tau$ must be satisfied. In this context, τ stands for the moment of the application of the influence $g(t)$, and $\lambda(t)$ denotes a weight function. For the connection between entrance and exit a formula is given. The paper under review then proceeds to give an integral equation for this problem and to solve it for the case of stationary accidental obstacles $n(t)$ with fractionally rational spectral density $S_n(\omega)$. Then one obtains a linear inhomogeneous differential equation of the order of $2m$ with constant coefficients. Its solution and the solution of an inhomogeneous Fredholm's integral equation of the second kind with degenerated core are given. The paper under review then goes on to consider briefly two examples. Finally some concluding remarks: The problem as stated and discussed here leads to systems with "infinite memory" with variable parameter, namely at stationary accidental obstacles. The criterion of dynamic accuracy as assumed here characterizes the

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20-2-19/60

On the Optimal Characteristics of a Class of Self-Tuning Dynamic Systems
With Variable Parameters

behavior of the system not only at processes that have become stationary but also at transition processes. The optimal impulse transition function depends explicitly on the momentaneous values of the intelligence signal and on the correlation function of the obstacle. There are 3 references, 1 of which is Soviet.

ASSOCIATION: Institute for Automatics and Telemechanics AS USSR
(Institut avtomatiki i telemekhaniki Akademii nauk SSSR)

PRESENTED: July 3, 1956, by N. N. Bogolyubov, Academician

SUBMITTED: July 2, 1956

AVAILABLE: Library of Congress

Card 3/3

SOLODOVNIKOV, V V

PHASE I BOOK EXPLOITATION 376

Avtomaticheskoye upravleniye i vychislitel'naya tekhnika, vyp. 1.
(Automatic Control and Computing Technique, v. 1) Moscow,
Mashgiz, 1958. 302 p. 7,000 copies printed.

Ed.: Solodovnikov, V.V., Doctor of Technical Sciences, Professor;
Scientific Ed. of Publishing House: Polyakov, G.F.; Tech. Ed.:
Sokolova, T.F.; Managing Ed. for Literature on Machine Building
and Instrument Making (Mashgiz): Pokrovskiy, N.V., Engineer.

PURPOSE: The book is intended for engineers and scientific personnel.

COVERAGE: The book is a collection of eleven articles presented at a seminar on the theory and technique of automatic control and computing machines. The seminar was organized by the Scientific and Technical Society of Instrument Making, the Moscow Higher

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Automatic Control and (Cont.) 376

Technical School imeni Bauman, and the Moscow Aviation Institute imeni S.Ordzhonikidze. The Moscow Physics and Engineering Institute also participated in the seminar. The first five articles outline the theory of automatic control, the next four describe automatic control systems and system components, and the last two articles discuss differential analyzers. No personalities are mentioned.

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PHASE I BOOK EXPLOITATION

Nauchno-tekhnicheskoye obshchestvo priborostroitel'noy promyshlennosti
 Avtomaticheskoye upravleniye i vychislitel'naya tekhnika; trudy soveshchaniya
 provedennogo v marte 1957 g. (Automatic Control and Computer Technique;
 Transactions of a Conference Held in March, 1957) Moscow, Mashgiz, 1958.
 494 p. 12,000 copies printed.

Ed.: Solodovnikov, V.V. Doctor of Technical Sciences, Professor; Ed. of
 Publishing House: Kononov, G.M.; Tech. Ed.: El'kind, V.D.;
 Managing Ed. for Literature on Machine Building and Instrument Making:
 (Mashgiz): Pokrovskiy, N.V., Engineer.

PURPOSE: The book is intended for scientific personnel and engineers working
 with computers and automatic control.

COVERAGE: The book is a collection of 24 articles presented at a conference
 called by the Scientific and Technical Society of the Instrument Manufac-
 turing Industry in March, 1957. The conference considered problems of
 the construction and application of computer equipment for the automatic
 control of industrial processes. The articles discuss problems of analysis

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SOLODOVNIKOV, V. V.

"The Basic Outlines of Engineering Cybernetics," Avtomaticheskoye upravleniye i vychislitel'naya tekhnika /Automatic Control and Computer Engineering/, Collected Articles, No. 1, Mashgiz /State Scientific and Technical Publishing House of Literature on Machine Manufacture/, 1958, Pages 5 - 21.

AUTHOR: Solodovnikov, V.V. 119-58-6-2/13

TITLE: The Scientific Basis of Complex Automatization (O nauchnykh osnovakh kompleksnoy avtomatizatsii)

PERIODICAL: Priborostroyeniye, 1958, Nr 6, pp. 4-11 (USSR)

ABSTRACT: In the development of automatization four separate stages can be distinguished:

- 1.) Replacement of manual labor by the mechanized force of machines.
- 2.) The introduction of apparatus of observation and control which are able to act as efficient substitutes for the human organs of perception.
- 3.) Partial automatization: In this case a considerable part of manual labor is replaced by machine labor. Also observation, control, and some simple processes of control and regulation are already automatized.
- 4.) Complex or total automatization: In this case especially all processes of control and regulation are automatized which warrant the most effective and, technically, the most economical method of production.

Card 1/3 Complex automatization must, with respect to its scientific basis

The Scientific Basis of Complex Automatization

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conception, be looked upon as a problem of the calculus of variations. The degree of technical economy, the degree of efficiency etc. of the process to be automatized can be represented in the following manner:

$$I = \int_{t_0}^{t_1} F(f, g, h, \dots, x, y, z, \dots, t) dt \quad (1)$$

where some boundary conditions hold which are connected with the variables x , y and z , viz:

$$\left. \begin{aligned} G_1(f, g, h, \dots, x, y, z, \dots, t) &= 0 \\ G_n(f, g, h, \dots, x, y, z, \dots, t) &= 0 \end{aligned} \right\} \quad (2)$$

It is now demanded that the functions $x(t)$, $y(t)$, $z(t)$ be selected in such a manner that for the dependences (1) an optimum value is attained if the boundary conditions are satisfied at the same time. It is thus necessary to work out the algorithm of control.

From a scientific point of view it is necessary first to develop a general theory of control processes. One of the scientific bases is cybernetics, which deals with the setting up of general principles and laws in accordance with which living organisms as well as certain machines perform certain purposive actions on the basis

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The Scientific Basis of Complex Automatization

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of certain principles of transmission and transformation and using certain information. The theory of automatic control deals with the elaboration of the principles of construction, the methods of analysis, and the synthesis of automatic control systems, i.e. of dynamical systems able to act independently and purposefully.

The theory of automatic control consists of the following main parts:

- 1.) The theory of information, which deals mainly with the problem of transmitting information in the case of breakdowns.
- 2.) The theory of algorithmisation and programming (problems connected with the transformation of information).
- 3.) The theory of automatic regulation, which solves all problems connected with the utilization of information for purposive actions.

The bases of the aforementioned 3 theories are described. There are 7 figures.

- | | |
|----------------------------------|------------------------|
| 1. Industrial plants--Automation | 2. Industrial plants-- |
| Control systems | 3. Mathematics |

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SOLODOVNIKOV, V. V.

103-2-9/9

AUTHOR: Rusevich, I. M.

TITLE: Conference on Automatic Control and Computation Engineering
(Soveshchaniye po avtomaticheskomu upravleniyu i vychislitel'noy tekhnike)

PERIODICAL: Avtomatika i Telemekhanika, 1958, Vol. 19, Nr 2, pp. 191-194
(USSR)

ABSTRACT: From March 5 - 8, 1957 the conference on automation and computation engineering organized by the All Union Scientific Engineering and Technical Society for Apparatus Building took place. 900 delegates from the Institute of the AN USSR as well as of the AN of the Unions' Republics, universities, research institutes, designing offices and laboratories of the various ministries and authorities took part in it. 40 lectures were held. The opening speech was delivered by M. Ye. Rakovskiy. The president of the organization committee of this conference V. V. Solodovnikov (Central Scientific Research Institute for Complex Automation - TsNIIKA) announced the tasks as well as the program of the conference. In the

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Conference on Automatic Control and Computation Engineering

second part of his speech he defined the subject as well as the characteristics of the content of technical cybernetics. A. A. Lypunov indicated the rôle and the importance of cybernetics as scientific basis of a complex automation of production. The following lectures were held on the theory and the foundations of construction of control computers: V. V. Kazakevich spoke on "Principles and circuits of optimum operation control methods". In a common lecture V. V. Solodovniko, A. M. Batkov, A. A. Bredis and P. S. Matveyev (TsNIIKA) dealt with the "Present Stage of the Theory of Optimum Dynamic Systems Subjected to Arbitrary Effects". L. T. Kuzin showed the use of the Z-transformation apparatus for the analysis and synthesis of the automation systems with numerical computation devices. A. M. Batkov spoke on the new way of using modelling electronic plants (electronic simulation) for the determination of the basic and statistical characteristics - the correlation function and the dispersion of a non-standardized arbitrary magnitude at the output of the automation system according to given characteristics of arbitrary effects at the input. Yu. A. Shreyder spoke on the principles of construction of so-called "self-informing" control apparatus; the

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basic property of which is the capability to find the optimum way of control by means of accumulated experiences in operation. - V. I. Dikushin, Member of the Academy, (Scientific Research and Experimental Institute for Machining Tools) spoke on the construction of systems for a preset control of machine tools. The lecture of E. Z. Lyubinskiy, S. S. Kamynin and V. S. Shtarkman (Institute for Mathematics imeni Steklov AN USSR) dealt with optimum information coding in automation and multistep automation schemes for production processes. M. P. Shura-Bura (Institute for Mathematics imeni Steklov AN USSR) spoke on the possibility of using the means of computation engineering for a transformation of any informations including those of automatic translation from one language into the other. N. V. Korol'kov, Ye. I. Mamonov and Yu. I. Sharapov spoke on the achievements in the field of quick, reliable, economical and small computer elements. On the utilization of these elements in the circuits of computers spoke V. A. Zimin and L. I. Gutenmakher. - V. I. Ryzhov, N. V. Trubnikov and A. K. Zavolokin, as well as Ye. M. Baskakov spoke on the input and output devices of computers. Yu. S.

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Conference on Automatic Control and Computation Engineering

Val'denberg held a lecture on a specialized mathematical machine of continuous operation for the solution of integral equations of Fredholm and Volterra's first and second type, as they often occur in control problems. -- Yu. V. Novikov (IAT AN USSR) spoke on the new computer created in the IAT AN USSR (magnetic correlograph) for the automatic computation of correlation functions. -- I. M. Vitenberg spoke on the modelling electronic apparatus for the automatic finding of a solution for a problem with a given system of equations. -- F. V. Mayorov and Ye. P. Zhidkov spoke on the mathematical foundations of numerical differential analyzers (TsDa) as well as on their use as control apparatus. -- L. I. Gutenmakher spoke on the prospects of using information- and statistical machines of new design for control systems.

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103-2-9/9

Conference on Automatic Control and Computation Engineering

The conference took place in Moscow from March 5 - 8, 1957. A number of lectures dealt with examples from the field of application of computation apparatus for the control of real production objects. Yu. Ye. Yefroymovich (Central Laboratory for Automation), V. Yu. Kaganov (Central Laboratory for Automation), A. B. Chelyustkin (IAT AS USSR) and P. N. Kopy-Gora spoke on the use of computation apparatus for the control of basic objects in metallurgy (furnaces, arc furnaces, rolling mills). D. T. Vasil'yev and L. N. Fitzer spoke on computers for the determination of the most suitable sequence of cuts in metalworking industry. Up to 20 different quantities determining the sequence of cuts can be introduced into the

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Conference on Automatic Control and Computation Engineering

machine and when some of these magnitudes are given the demanded optimum parameter can be computed within 2 - 3 minutes. Ye. A. Khetagurov reported on a numerical system for the control of a machine tool. - The conference regards it necessary to organize special groups within the TsNIIKA (Central Scientific Research Institute for Complex Automation), the NII and KB (Scientific Research Institute and Construction Bureau), at the ministries as well as within the organization of the AS USSR. These groups should be concerned with the problems of technical cybernetics. It was decided to have organized an All-Union Conference for Cybernetics by the All-Union Scientific Engineering and Technical Society for Apparatus Building in collaboration with the AS USSR.

AVAILABLE: Library of Congress

1. Automation-Conference

USCOMM-DC-54858

Card 6/6

SOLODOVNIKOV, Vladimir Viktorovich, prof.; POKROVSKIY, Georgiy Isailovich, prof.; DANILIN, Boris Stepanovich, kand.tekhn.nauk; FAYNBOYM, I.B., red.; SAVCHENKO, Ye.V., tekhn.red.

[Achievements in modern physics] Uspekhi sovremennoi fiziki; sbornik. Moskva, Izd-vo "Znanie," 1959. 30 p. (Vsesoiuznoe obshchestvo po rasprostraneniю politicheskikh i nauchnykh znaniy. Ser.9, Fizika i khimiya, no.28) (MIRA 13:1)
(Automation) (Aeronautics) (Atmosphere)

SOLODOVNIKOV, V.V.

ALEKPEROV, V.P., inzh.; ATOVMYAN, I.O., inzh.; ZUYEV, V.I., inzh.; KAVUN, Ye.S., kand.tekhn.nauk; KOGAN, B.Ya., kand.tekhn.nauk; KOPAY-GORA, P.N., kand.tekhn.nauk; KULAKOV, A.A., inzh.; LEBEDEV, A.N., kand.tekhn.nauk; PAPERNOV, A.A., doktor tekhn.nauk; PML'POR, D.S., doktor tekhn.nauk; PLOTNIKOV, V.N., kand.tekhn.nauk; RUZSKIY, Yu.Ye., kand.tekhn.nauk; SOLODOVNIKOV, V.V., doktor tekhn.nauk; TOPCHYEYEV, Yu.I., kand.tekhn.nauk; ULANOV, G.M., kand.tekhn.nauk; SHRAMKO, L.S., kand.tekhn.nauk; DOBROGURSKIY, S.O., doktor tekhn.nauk, retsenzent; KAZAKOV, V.A., kand.tekhn.nauk, retsenzent; PETROV, V.V., kand.tekhn.nauk, retsenzent; KHAVKIN, G.A., inzh., retsenzent; SOLODOVNIKOV, V.V., prof., doktor tekhn.nauk, red.; VITENBERG, I.M., kand.tekhn.nauk, nauchnyy red.; MOLDAVER, A.I., kand.tekhn.nauk, nauchnyy red.; KHETAGUROV, Ya.A., kand.tekhn.nauk, nauchnyy red.; POLYAKOV, G.F., red.izd-va; KONOVALOV, G.M., red.izd-va; SOKOLOVA, T.F., tekhn.red.

[Fundamentals of automatic control] Osnovy avtomaticheskogo regulirovaniya. Vol.2. [Elements of automatic control systems] Elementy sistem avtomaticheskogo regulirovaniya. Pt 2. [Compensating elements and computer components] Korrektiruiushchie elementy i elementy vychislitel'nykh mashin. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit.lit-ry. 1959. 453 p. (MIRA 12:4)
(Automatic control) (Electronic apparatus and appliances)
(Electronic calculating machines)

BRASLAVSKIY, D.A., kand.tekhn.nauk; GOL'DFARE, L.S., doktor tekhn.nauk;
 GUZENKO, A.I., kand.tekhn.nauk; DMITRIYEV, K.Ye., kand.tekhn.nauk;
 KALASHNIKOV, V.A., inzh.; KLOBUKOV, P.P., kand.tekhn.nauk; KLUB-
 NIKIN, P.F., kand.tekhn.nauk; KRASSOV, I.M., kand.tekhn.nauk;
 PEL'POR, D.S., doktor tekhn.nauk; PETROV, V.V., kand.tekhn.nauk;
 ROZENBLAT, M.A., doktor tekhn.nauk; RUZSKIY, Yu.Ye., kand.tekhn.
 nauk; SADOVSKIY, B.D., kand.tekhn.nauk; SOKOLOV, A.A., kand.tekhn.
 nauk; TITOV, V.K., kand.tekhn.nauk; ULANOV, G.M., kand.tekhn.nauk;
 FILIPCHUK, Ye.V., kand.tekhn.nauk; KHARYBIN, A.Ye., kand.tekhn.
 nauk; KHOKHLOV, V.A., kand.tekhn.nauk; GALTEYEV, F.F., kand.tekhn.
 nauk, retsenzent; KARASEV, V.A., doktor tekhn.nauk, retsenzent;
 RAGOZIN, Yu.D., kand.tekhn.nauk, retsenzent; REYNGOL'D, Yu.R., inzh.,
 retsenzent; RYABOV, B.A., doktor tekhn.nauk, retsenzent; SAYBEL',
 A.G., kand.tekhn.nauk, retsenzent; SHEVYAKOV, A.A., kand.tekhn.nauk,
 retsenzent; SOLODOVNIKOV, V.V., prof., doktor tekhn.nauk, red.;
 VITENBERG, I.M., kand.tekhn.nauk, nauchnyy red.; MOLDAVER, A.I.,
 kand.tekhn.nauk, nauchnyy red.; POLYAKOV, G.F., red.izd-va; AKIMOVA,
 A.G., red.izd-va; KONOVALOV, G.M., red.izd-va; TIKHONOV, A.Ya., tekhn.
 red.; SOKOLOVA, T.F., tekhn.red.

[Fundamentals of automatic control] Osnovy avtomaticheskogo reguliro-
 vania. Vol.2. [Elements of automatic control systems] Elementy sistem
 avtomaticheskogo regulirovaniia. Pt.1. [Sensing devices, amplifiers,
 and actuators] Chuvstvitel'nye, usilitel'nye i ispolnitel'nye elementy.
 Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry. 1959. 722 p.

(Automatic control)

(MIRA 12:4)

(Electronic apparatus and appliances) (Electronic calculating machines)

SoLoDev N. Kov, V.V.

SOV/179-59-5-41/41

AUTHOR: None given

TITLE: Third All-Union United Conference on the Automation of
Manufacturing Processes in Machine - Building and
Automatic Electrical Drives in Industry

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1959, Nr 5, p 184 (USSR)

ABSTRACT: The Conference was called during 12-16th May 1959, in Moscow by the Soviet Academy of Sciences, the USSR State Planning Commission (Gosplan), the State Scientific-Technical Committee (Gosudarstvennyy nauchno-tekhnicheskiy komitet), the State Committee for Automation and Machine-Building (Gosudarstvennyy komitet po avtomatizatsii i mashinostroyeniyu) and the USSR National Committee for Automatic Control (Natsional'nyy komitet SSSR po avtomaticheskomu upravleniyu). 800 Delegates took part. Academician Bardin, I.P. in his opening address noted the official policy of a broad adoption of automation in all fields of the National Economy as the decisive condition of further technical progress. Academician Dikushin, V.I. read a paper on the problems of the development of

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Third All-Union United Conference on the Automation of Manufacturing
Processes in Machine - Building and Automatic Electrical Drives
in Industry

automation in machine - building in the 1959-1965 period. The greatest significance is attributed to the complete automation of processes with a large labour content and heavy repetitive work and to the automation of production. Mechanisation and automation must spread into new fields of production. The integrated development of powerful machine - building will make it possible to increase the productivity of labour continuously and without limit. Advanced production processes must be more rapidly adopted. Renewal of production plant must be carried out by its replacement with better plant and more automatic plant and by economically beneficial modernisation. Special attention was paid by the lecturer to the press working of metals. Research into deformation processes, the stressed state and strength in the stamping of hot and cold metals, especially metals of low ductility and heat resistant metals must be accelerated. Concerning the problem of the continuity and automation of metal cutting

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Third All-Union United Conference on the Automation of Manufacturing
Processes in Machine - Building and Automatic Electrical Drives
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processes, the lecturer pointed out that the creation of improved machine tools for metal cutting will demand more research into the stressed state, the deformation, and the forces in metal cutting, into the increased life of cutting tools, the development of methods of precise forming and improved accuracy of cutting, the development of automation schemes and automation equipment capable of rapid re-setting or re-tooling when changing the design of the components. Special attention was given by the lecturer to the drive and control of machine tools. The scientific and technical level of developments in the field of drive and control achieved in the USSR will make it possible to solve complex problems of the automation of the entire operating cycle of a machine tool. However, the lag in the manufacture of drive components and control components prevent the wider development of automation. Academician Brudevich, N.G. read a paper on the safety and accuracy in automatic production. Borisenko, I.I., engineer, gave a paper on the manufacture of electrical

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SOLODOVNIKOV, V., prof., doktor tekhn.nauk; MALKIN, A., ekonomist

Scientific bases for over-all automation and problems of
its development. WFO no.6:7-9 Ja '59. (MIRA 12:9)
(Automation)

Solodovnikov, V.

Scientific foundations of complex automation. Tr. from the Russian. p.208

MERES ES AUTOMATIKA. (Merstechnikal es Automatizalasis Tudomanyos Egyesulet)
Budapest, Hungary. Vol.7, no.8/9, 1959

Monthly List of East European Accessions (KEAI) LC, Vol.8, no.11
November 1959
Uncl.

PHASE I BOOK EXPLOTTATION

SOV/3907

Solodovnikov, Vladimir Viktorovich, and Arkadiy Sergeyevich Uskov

Statisticheskiy analiz ob'yektov regulirovaniya; statisticheskiye metody opredeleniya dinamicheskikh kharakteristik ob'yektov avtomaticheskogo regulirovaniya v protsesse ikh normal'noy ekspluatatsii (Statistical Analysis of Control Objects; Statistical Methods for Determining the Dynamic Characteristics of Automatic-Control Objects in the Process of Their Normal Operation) Moscow, Mashgiz, 1960. 130 p. 5,000 copies printed.

Sponsoring Agency: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut kompleksnoy avtomatizatsii.

Reviewer: G.M. Ulanov, Doctor of Technical Sciences; Ed.: G.F. Polyakov; Tech Ed.: Z.I. Chernova; Managing Ed. for Literature on Machine Building and Instrument Construction (Mashgiz): N.V. Pokrovskiy, Engineer.

PURPOSE: This book is intended for scientific workers and engineers specializing in automatic control and computer technology, and for students of these subjects.

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SOV/3907

Statistical Analysis of Control Objects (Cont.)

COVERAGE: The book discusses methods of studying automatic control systems during their normal operation. The usual methods of artificial perturbations are, in many cases, not applicable because of their low precision in the presence of noise and because of the disturbances of the normal path of processes in a system, which are caused by artificial perturbations. The book describes problems connected with the statistical analysis of linear and nonlinear control objects with many inputs and outputs, the presence of noise, etc. The methods presented can be used in the experimental study of production facilities and processes to automatize them by creating optimum and self-adjusting automatic control systems. No personalities are mentioned. There are 33 references: 21 Soviet, 2 French, and 10 English.

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Statistical Analysis of Control Objects (Cont.)

SOV/3907

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SOV/3907

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Card 5/6

SOLODOVNIKOV, Vladimir Viktorovich

Introduction to the Statistical Dynamics of Automatic Control Systems.
New York, Dover, 1960.

xx, 307 p. diags., graphs, tables.
Translated from the original Russian: Vvedeniye v Statisticheskuyu
Dinamiku sistem Avtomaticheskogo Upravleniye. Moscow, 1952.
Bibliographical footnotes.

SOLODOVNIKOV, V.V.

P 3

PHASE I BOOK EXPLOITATION

SOV/4275

Avtomaticheskoye upravleniye i vychislitel'naya tekhnika, vyp. 3 (Automatic Control and Computer Techniques, No. 3) Moscow, Mashgiz, 1960. 489 p.
Errata slip inserted. 7,000 copies printed.

Ed. of Publishing House: G.F. Polyakov; Tech. Ed.: T.F. Sokolova; Managing Ed. for Literature on Machine Building and Instrument Making (Mashgiz): N.V. Pokrovskiy, Engineer; Editorial Board: V.V. Solodovnikov, Doctor of Technical Sciences, Professor (Chairman), N.N. Bogolyubov, Academician, A.Yu. Ishlinskiy, Academician, Ukrainian SSR, V.V. Kazakevich, Doctor of Technical Sciences, Professor (Deputy Chairman), A.A. Lyapunov, Doctor of Physics and Mathematics, Professor, B.N. Petrov, Corresponding Member, Academy of Sciences USSR, Ye.P. Popov, Doctor of Technical Sciences, Professor, G.S. Pospelov, Doctor of Technical Sciences, Professor, B.A. Ryabov, Doctor of Technical Sciences, Professor, B.V. Anisimov, Candidate of Technical Sciences, Docent, V.V. Petrov, Doctor of Technical Sciences, Docent, V.N. Plotnikov, Candidate of Technical Sciences, Docent (Scientific Secretary), V.B. Ushakov, Doctor of Technical Sciences.

PURPOSE: This book is intended for scientific workers, engineers, and aspirants working in the field of automatic control.

Card 1/4

Automatic Control (Cont.)

SOV/4275

COVERAGE: The book is the third collection of reports read at the seminar on automatic control and computer engineering of the NTO priborostroyeniya (Scientific and Technical Society for Instrument Making), the MVTU im. Bauman (Moscow Higher Technical School imeni Bauman), and the MAI im. Ordzhonikidze (Moscow "Order of Lenin" Aviation Institute imeni Ordzhonikidze). It contains papers on current topics in automatic control and computer engineering which, according to the author, are significant for the solution of problems involved in the complex automation of industrial processes by means of control machines and includes discussion of the design of linear and nonlinear automatic control systems. The book covers some questions related to the dynamics of such systems, ways of increasing operational speed, and means of obtaining optimum transient processes. Automatic control systems involving discrete computers, systems with variable parameters, sampled-data control systems, the dynamic accuracy of these systems during random motions, and the theory of sampled-data systems are discussed. No personalities are mentioned. References are found at the end of each article.

Card 2/4

Potapov, M.D. On the Nonstationary Properties of Sampled-Data Systems

218

Shatalov, A.S. Engineering Methods of the Linear Theory of Control Systems
With Variable Parameters

233

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001652220004-9"

Card 3/4

PHASE I BOOK EXPLOITATION

SOV/4986

Solodovnikov, Vladimir Viktorovich

Statisticheskaya dinamika lineynykh sistem avtomaticheskogo upravleniya (Statistical Dynamics of Linear Systems in Automatic Control) Moscow, Fizmatgiz, 1960. 655 p. 10,000 copies printed.

Ed.: O. K. Sobolev; Tech. Ed.: N. Ya. Muratova.

PURPOSE: This advanced textbook is intended for university engineering students, research scientists, and practicing engineers concerned with the design and calculation of the performance of linear control systems, particularly those subject to random inputs.

COVERAGE: The book deals with the mathematical theory, operating characteristics, and the design of linear servo-control systems, particularly those required to operate under conditions of random inputs. The book develops the usual theory of linear systems subject to specified input functions and then proceeds to extend

Card 1/19-

SOLODOVNIKOV, V. V.

PLANE I BOOK EXPLOITATION SOV/436

Trud i tekhnika v ssel'khe (Labor and Engineering in the Seven-Year Plan) Moscow, Proizhitel', 1960. 365 p. (Series: Masovaya biblioteka rabochego) 10,000 copies printed.

Compiled: S. O. Kryzov; Ed.: A. V. Anisimov; Tech. Ed.: A. A. Gollendova.

PURPOSE: This book is intended for the general reader.

COVERAGE: The book is a collection of 19 articles dealing with the achievements and progress of the Seven-Year Plan in branches of the Soviet economy and in science. Attention is given to power plant construction, machine building, space science, electrification, transportation, prospecting, utilization of agriculture, and chemistry. Good suggestions for further progress are made. No person-ages are mentioned. There are no references.

Prokhorovich, A. Ye. [Deputy Director, Experimental, try station, Scientific Institute of Metal-Cutting (Experimental Research Institute of Metal-Cutting Machine Tools)] From Automatic Machine Tools to Automatic Production Lines, Shops, and Factories 59

Rodinskiy, A. Ye. [Doctor of Technical Sciences] Program Control of Machine Tools 119

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Chukhrov, Z. I. [Corresponding Member, Academy of Sciences USSR] On Comprehensive Utilization of Fuel 223

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Reyev, R. D. [Director, Technical try station, Scientific Institute of the Ministry of the Machine-Building Industry] 325

Karpenko, A. N. [Member, All-Union Academy of Agricultural Sciences] 331

Zvonkov, V. V. [Corresponding Member, Academy of Sciences USSR, Honored Scientist and Technologist] A Big Leap in the Book 363

SOLODOVNIKOV, V.V.

Algorithms of control and controlling machines for complete automation.
Avtom. upr. i vych. tekhn. no.3:5-35 '60. (MIRA 13:11)
(Automatic control)

SOLODOVNIKOV, Vladimir Viktorovich, ed.

Automatic control and computer engineering. London,
New York, Pergamon Press, 1961-

v. illus., charts, diagrs., tables.

Translated from the original Russian: Avtomaticheskoye
upravleniye i vychislitel'naya tekhnika, Moscow, 1958-

Includes references.

SOLODOVNIKOV, V.V., prof., red.; BOYARSKIY, V.A.[translator]; GORSKIY,
A.V.[translator]; IORDANSKIY, A.D., red. izd-va; GUS'KOVA, O.M.,
tekhn. red.

[Automatic control] Avtomaticheskoe upravlenie. Moskva, Izd-vo
Akad.nauk SSSR, 1961. 182 p. (MIRA 15:5)
(Automatic control)

SOLODOVNIKOV, V.V., doktor tekhn. nauk, prof., red.; MARTENS, S.L., inzh.,
red.; TIKHANOV, A.Ya., tekhn. red.

[Use of computing equipment in the automation of production processes;
transactions of the conference] Primenenie vychislitel'noi tekhniki
dlya avtomatizatsii proizvodstva; trudy soveshchaniia. Pod red. V.V.
Solodovnikova. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-
ry, 1961. 535 p. (MIRA 14:11)

1. Nauchno-tekhnicheskoye soveshchaniye, posvyashchennoye primeneniyu
sredstv vychislitel'noy tekhniki dlya avtomatizatsii proizvodstvennykh
protssosov. 2d, Moscow, 1959. (Automation) (Electronic calculating machines)

S/044/62/000/006/096/127
B166/B112

AUTHOR: Solodovnikov, V. V.

TITLE: Cybernetics, automation, the problem of automatic control
and controlling machines

PERIODICAL: Referativnyy zhurnal. Matematika, no. 6, 1962, 43-44,
abstract 6V211 (Sb. "Primeneniye vychisl. tekhn. dlya
avtomatiz. proiz-va". M., Mashgiz, 1961, 7-19)

TEXT: The theory of automatic control is regarded by the author as a part of cybernetics, on the one hand (informational aspects of the control process), and as a part of automation, on the other (design of automatic systems which perform the tasks assigned to them without the direct participation of man). Defining automation as the science of automatic systems, the author gives the following definition of automation: the use of the methods and means of automation for converting non-automatic machines, units, and production processes into automatic ones. In connection with this definition, the following definition of mechanization is given: the replacement of human labor by cyclic machines or devices

Card 1/3

S/044/62/000/006/096/127
B166/B112

Cybernetics, automation, the ...

which effect mechanical working motions. The author sees the difference between automation and mechanization as the fact that automation means the liberation of human labor from the performance of any operations at all, whereas mechanization replaces human labor only in those operations which it is possible and expedient to carry out by machines effecting mechanical motions. According to the author's definition, the subject of automatic control theory consists of developing general principles and methods of designing automatic systems which in the process of control without human interference perform the tasks assigned to them without human interference through the receipt, transmission, processing, and use of information. The essence of the problem of control is reduced to the transmission and processing of information from the controlling system to the controlled object and back again from the object to the controlling system. The combination of controlled object and controlling system is the control system, which is characterized by certain combinations of interconnected variables. The author breaks down the problem of control into 6 stages: (1) Mathematical description of the controlled object. (2) Accurate formulation of the aim of the control. (3) Quantitative description of the interaction between the control system and the

Card 2/3

S/044/62/000/006/096/127
B166/3112

Cybernetics, automation, the ...

surrounding medium. (4) Definition of the control algorithm. (5) Technical application of the control algorithm. (6) Analysis of the dynamic accuracy with which the control algorithm is applied. The author divides all existing technical means of automation into four main classes: means for receiving information, means for transmitting information, means for processing information, and means which use the information for acting on the controlled object. The latter class, which actually comprises the controlling machines, is the highest stage in the application of computing technique, and requires the development of design principles and a wide program of scientific research. The author formulates a number of problems of this research work at the end of the article. [Abstracter's note: Complete translation.]

Card 3/3

41461

S/044/62/000/009/059/069
A060/A000

16.4000
9.7000

AUTHORS:

Solodovnikov, V.V., Batkov, A.M., Baburin, V.M., Val'denberg, Yu.S.,
Matveyev, P.S., Pokrovskiy, A.N.

TITLE:

Analysis and synthesis of automatic control systems using the means
of computer technology

PERIODICAL:

Referativnyy zhurnal, Matematika, no. 9, 1962, 43, abstract 9V229
("Tr. I Mezhdunar. kongressa Mezhdunar. federatsii po avtomat.
upr., 1960. (T. 4). Tekhn. sredstva avtomatiki", Moscow., AN SSSR,
1961, 191 - 206. Discussion, 206 - 207)

TEXT:

The problem of analyzing an automatic control system which is af-
fected by several perturbing forces reduces to the solution of integral equa-
tions of the form:

$$R_{x_1 y_k}(t) = \int_0^{\infty} R_{y_k y_k}(t - \tau) K_k(\tau) d\tau \quad \text{for } i = 1, 2, \dots, n; \quad (1)$$

$k = 1, 2, \dots, m.$

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S/044/62/000/009/059/069
A060/A000

Analysis and synthesis of automatic

The problem of system synthesis reduces to the solution of an integral equation

$$\int_0^T R(t - \tau) K(\tau) d\tau = F(t); \quad 0 \leq t \leq \infty; \quad (2)$$

with constraints of the form $\int_0^T f_1(\tau) K(\tau) d\tau = \mu_1$. (3)

The paper considers: first, the general method of solution in closed form of the class of synthesis problems which reduce to the integral equation (2); second, the application of the method of inverse systems to the analysis of linear systems by means of electronic simulating installations in the case of nonstationary random forces at the input; third, special-purpose computers elaborated by the authors and, fourth, some problems of applying general-purpose digital computers to the solution of problems which reduce to the expressions (1) and (2). The method of solution set forth does not require the application of artificial methods and includes as special cases all the analyzed problems of statistical dynamics in the class of systems with constant parameters. The theorems set forth in the article make it possible to: 1) determine the correlation

Card 2/4

S/O44/62/000/009/059/069
A060/A000

Analysis and synthesis of automatic

function of the output signal of an automatic control system with variable parameters in the presence of white noise at the input; 2) determine the differential equation of the shaping filter for a nonstationary stochastic process with a correlation function of the form

$$R(t, \tau) = \sum_{i=1}^n \varphi_i(t) \psi_i(\tau) \quad (t > \tau),$$

where φ_i and ψ_i are linearly independent functions continuously together with their derivatives; n is bounded. A similar method may be applied to automatic control systems containing inertialess elements. The system of equations thus obtained may be solved with the aid of a simulator. The correllograph described is a special-purpose analog computer. It is designed for the computation of correlation functions of processes with a low-frequency spectrum of $0 + 20$ cps. The error of the solution is $5 + 10\%$ of the maximum value. The synthesizer is a special-purpose computer for the solution of linear one-dimensional integral equations of the Fredholm and Volterra type of the first and second kind with a convolution kernel and also for calculating autocorrelation and correlation

Card 3/4

Analysis and synthesis of automatic

S/044/62/000/009/059/069
A060/A000

functions. The time of solving an equation is $10 + 40$ sec. The error of solution of the problems is $5 + 10\%$. The method of solving the integral equations is based upon approximating them with a system of algebraic equations and solving this system by Zaydel's iteration method. The possibility of applying general-purpose computers to the analysis and synthesis of automatic control systems is analyzed, and the required sequence of operations is proposed.

A.D. Zaikin

[Abstracter's note: Complete translation]

Card 4/4

38729

S/194/62/000/005/007/157
D222/D309

16.8000

AUTHORS: Solodovnikov, V.V., and Uskov, A.S.

TITLE: The use of computational techniques for determining the dynamic characteristics of regulated members under normal operating conditions

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 5, 1962, abstract 5-1-94a (V sb. Primeneniye vychisl. tekhn. dlya avtomatiz. proiz-va, M., Mashgiz, 1961, 458-482)

TEXT: The problems of using computational techniques for determination of the dynamic characteristics of complex controlled members with the help of methods based on statistical considerations, are examined. Complex members of automatic control systems which have several inputs and outputs, feedbacks, and also multiloop systems in the presence of internal noise, are discussed. It is assumed in the exposition of the statistical methods of analysis that the investigated objects are linear and have constant parameters; and that the processes taking place in the system are ergodic and stationary. It
Card 1/2

The use of computational techniques ...

S/194/62/000/005/007/157
D222/D309

is shown that the problem of determining the dynamic characteristic is divided into two stages: The calculation of the correlation functions from a recording of the stochastic processes and the determination of the corresponding spectral densities from the calculated correlation functions; the obtainment of the dynamic characteristics from the calculated correlation functions or from the spectral densities. The working formulas and the method of calculation of the correlation functions with analogue or digital computers are given. The method of determining the spectral densities is given. It is shown that for the determination of the dynamic characteristics of regulated members in the time domain, the best kind of special-purpose analogue computer is a variable filter. During the statistical analysis of objects with more than five inputs, the best method is to reduce the problem to the solution of a system of algebraic equations in the frequency domain. In this case the utilization of general-purpose computers makes it possible to solve completely the problem of determining the dynamic characteristics of complex objects with a large number of intercorrelated inputs. 24 references. [Abstractor's note: Complete translation].

Card 2/2

SOLODOVNIKOV, V.V., doktor tekhn.nauk, prof.; SHRAMKO, L.S., kand.tekhn.
nauk, dotsent

"Fundamentals of the automation of technological processes" by
M.Maizel'. Reviewed by V.V.Solodovnikov, L.S.Shranko. Kozh.-
obuv.prom. 3 no.9:37 S '61. (MIRA 14:11)
(Automation) (Maizel', M.)

S/588/61/000/004/003/011
D234/D303

16.8000

AUTHORS: Solodovnikov, V.V., and Matveyev, P.S.

TITLE: Synthesis of the correcting devices of automatic control systems in the presence of disturbances

SOURCE: Avtomaticheskoye upravleniye i vychislitel'naya tekhnika, no. 4, Moscow 1961, 93 - 183

TEXT: The authors deal with a generalized problem, in which it is supposed that external influences can be applied to the system at n different points. The subjects treated are the method of determining the optimum pulse transfer function (formulation of the problem, some structural transformations of the basic circuit diagram, solution of the problem for $n = 3$ and generalization for any n , determination of the transfer function $k(t)$ for $n = 2$ and for $n = 1$, determination of $k(t)$ for the same cases when the non-random component of the useful signal $g(t)$ is equal to 0, in this part of the paper $g(t)$ is supposed to be a polynomial), generalization for the case of $g(t)$ being a harmonic function, methods of synthesizing cor-

Card 1/3

Synthesis of the correcting devices ... S/588/61/000/004/003/011
D234/D303

recting devices according to requirements of dynamical accuracy and quality (several examples of the analytical determination of desired transfer functions are treated in addition to the description; determination of the re-regulation factor, errors of the optimum system, examples of determining optimum or desired logarithmic frequency characteristics are also considered). The author uses the connection between the correlation function and Green's function, stating that the solution is obtained in a comparatively simple way with its aid. A further chapter deals with the use of Green's function for determining the optimum pulse transfer function of a system with variable parameters and for solving the integral equation obtained during determination of the pulse transfer function in the process of normal operation. Integral equations of self-tuning systems are also considered. There are 44 figures, 5 tables and 23 references: 14 Soviet-bloc and 9 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: T. P. Goodman and I. B. Reswick, Trans. ASME, v. 78, 1956, 259-271, Marvin Blum Generalization of the Class of Non-random Inputs of the Zadeh-Ragazzini Prediction Model. IRE Trans. of Information Theory,

✓B

Card 2/3

Synthesis of the correcting devices ... S/588/61/000/004/003/011
D234/D303

June 1956; C.L. Dolph and M.A. Woodbury, Trans. Amer. Math. Soc., v.
72, no. 3, 1952; L.A. Zadeh and S.R. Ragazzini, Journ. Appl. Phys.,
v. 21, no. 7, 1950.

✓B

Card 3/3

SOLODOVNIKOV, V.V.; MATVEYEV, P.S.; BABYRIN, V.M.

Statistical method and apparatus for determining the dynamic
characteristics of control objects. Avtom. upr. i vych. tekhn.
no.5:151-202 '62. (MIRA 15:9)
(Automatic control)

SOLODOVNIKOV, V.V.; MATVEYEV, P.S.; VAL'DENBERG, Yu.S.; BABURIN,
V.M.; STROGANOV, L.P., inzh., red.; GORDEYEVA, L.P.,
tekhn. red.

[Computer techniques for use in statistical studies and
calculations of automatic control systems] Vychislitel'-
naia tekhnika v primenenii dlia statisticheskikh issledo-
vanii i raschetov sistem avtomaticheskogo upravleniia.
Mashgiz, 1963. 166 p. (MIRA 16:5)
(Automatic control) (Electronic computers)

DOBROLENSKIY, Yuriy Pavlovich, doktor tekhn. nauk, prof.; IVANOVA, Valentina Ivanovna, kand. tekhn. nauk, dots.; POSPELOV, Germogen Sergeyevich, doktor tekhn. nauk, prof.; Prinimal uchastiye BODUNOV, N.K., kand. tekhn.nauk, dots.; SOLODOVNIKOV, V.V., doktor tekhn. nauk, prof., retsenzent; CHERTOK, B.Ye., doktor tekhn. nauk, retsenzent; VAVILOV, Yu.A., kand. tekhn. nauk, dots., red.; SHEYNFAYN, L.I., red.izd-va; NOVIK, A.Ya., tekhn. red.

[Automation of guided missiles] Avtomatika upravliaemykh snariadov. Moskva, Oborongiz, 1963. 548 p. (MIRA 16:12)
(Guided missiles) (Automatic control)

AM4033667

BOOK EXPLOITATION

S/

Ruzskiy, YU. YE. (Candidate of Technical Sciences); Solodovnikov, V. V. (Doctor of Technical Sciences, Professor); Titov, V. K. (Candidate of Technical Sciences); Topcheyev, YU. I. (Candidate of Technical Sciences)

Principles of automatic control. v. 3: Automatic regulators and servomechanisms (Osnovy* avtomaticheskogo upravleniya. t. 3: Avtomaticheskiye regulatory* i sledyashchiye sistemy*) Moscow, Mashgiz, 63. 2 0659 p. illus., biblio., index. Errata slip inserted. 11,300 copies printed. 567

TOPIC TAGS: automatic control equipment, automatic regulation, servomechanism, hydraulic control, pressure control, electronic control

PURPOSE AND COVERAGE: The book considers automatic regulators and servomechanisms used in industry and contains typical diagrams, construction elements, main static and dynamic characteristics of these elements, and some features governing the choice of parameters of these regulators and servomechanisms and recommendations with respect to their use. Experimental dynamic characteristics are presented for most automatic regulators and servomechanisms. The book is intended for engineering-technical and scientific workers, instructors, and graduate or senior students

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engaged in automatic regulation and control. Chs. II, III, IV, and V were written by Candidate of Technical Sciences Yu. Ye. Ruzskiy. The introduction and Ch. I were written by Doctor of Technical Sciences V. V. Solodovnikov. Ch. VII was written by Candidate of Technical Sciences V. K. Titov. Chs. VI, VIII, IX were written by Candidate of Technical Sciences Yu. I. Topcheyev.

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AM4033667

Literature - - 635
Sub. index - - 656

SUB CODE: IE

SUBMITTED: 14Nov63

NR REF SOV: 0278

OTHER: 0274

DATE ACQ: 06Apr64

Card 3/3

SOLODOVNIKOV, V.V.; PUPKOV, K.A.

Review of L.T. Kuzin's book "Calculation and design of discrete control systems." Izv. AN SSSR. Otd. tekhn. nauk. Tekhn. kib. no.1:203-204 Jan-F '63. (MIRA 16:7)

(Automatic control)
(Kuzin, L.T.)

SOLODOVNIFOV, V.V., doktor tekhn.nauk, prof.; KARABANOV, V.V., kand.tekhn.
nauk, dotsent

"Structural methods in the theory of control and electronic
automatic control" by A.S.Shatalov. Reviewed by V.V.Solodovnikov.
Elektrichestvo no.9:94-96 S '63. (MIRA 16:10)

1. Moskovskoye vyssheye tekhnicheskoye uchilishche im. Baumana.

SOLODOVNIKOV, V.V., doktor tekhn. nauk, prof., red.; STROGANOV,
L.P., inzh., red.

[Computer technology for the automation of industry] Vy-
chislitel'naiia tekhnika dlia avtomatizatsii proizvodstva;
trudy soveshchaniia, provedennogo v iune 1962 g. Mo-
skva, Mashinostroenie, 1964. 359 p. (MIRA 17:12)

L 27869-65 FWT(d)/EWP(1) Po-4/Pq-4/Pg-4/Pae-2/Pk-4/Pl-4 IJP(c) BC/GS
s/0000/64/000/000/0005/0034

ACCESSION NR: AT5003941

AUTHOR: Solodovnikov, V. V.

TITLE: Analytic self-adaptive systems for automatic control

47
E+1

SOURCE: Nauchno-tekhnicheskoye obshchestvo priborostitel'noy promyshlennosti.
Nauchno-tekhnicheskoye soveshchaniye. 3d, Moscow, 1962. Vychislitel'naya tekhnika dlya avtomatizatsii proizvodstva (Computer technology for the automation of production); trudy soveshchaniya. Moscow, Izd-vo Mashinostroyeniya, 1964, 5-34

TOPIC TAGS: automatic control theory, self adaptive control, transfer function, statistical control

ABSTRACT: The author reviews the present status of some fundamental problems connected with the design and construction of analytic self-adaptive systems consisting essentially of the main control loop (ordinary control system without adjustments in the structure or in the parameters), a self-adjustment loop (including parts of the main control loop that can be adjusted, and a controllable actuating system), and a control computer, which generates both the main control signals and the self-adjustment signals, the latter on the basis of past and

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ACCESSION NR: AT5003941

current information regarding the external and internal operating conditions and the output requirements. The main functions of each element are described. The external conditions (parameters and external signals) governing self-adaptive systems are analyzed. The input signal is approximated by means of a polynomial, and the statistical characteristics of all the signals are described. Methods are presented for determining the correlation function from experimental data, for analyzing the internal conditions (the dynamic characteristics), for selecting the trial functions, for determining the impulse transfer function with the aid of an artificial noise input, for determining the frequency characteristic and various transfer functions, and for determining the coefficients of the control differential equation. Optimization of the various parameters and characteristics is discussed. Block diagrams are proposed for analytic self-adaptive systems that solve the control problem either in the time domain or in the frequency domain. Orig. art. has: 16 figures and 88 formulas.

ASSOCIATION: None

SUBMITTED: 01Sep64

ENCL: 00

SUB CODZ: DP, IE

NR REF SOV: 007

OTHER: 001

Card 2/2

S/0286/64/000/007/0029/0030

ACCESSION NR: AP4031835

AUTHOR: Solodovnikov, V. V.

TITLE: Signal converter. Class 21, No. 161378

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 7, 1964 p. 27-30

TOPIC TAGS: signal converter, magnetic amplifier, semiconductor amplifier

ABSTRACT: This is a converter of direct-current low-voltage signals into direct-current signals linearly dependent on the input signal using a magnetic amplifier and semiconductor triodes. For the purpose of increasing zero stability and reducing the error in conversion, a magnetic amplifier — frequency doubler, the output of which is connected to a semiconductor amplifier and a key-type frequency divider are installed at the converter input, while at the output of the converter there is a phase-sensitive amplifier transistor stage, operating from a fundamental frequency reference voltage source which feeds the converter. Orig. art. has: 1 figure.

Card 1/3

ACCESSION NR: AP4031835

ASSOCIATION: none

SUBMITTED: 03Dec62

ATD PRESS: 3047

ENCL: 01

SUB CODE: EC

NO REF SOV: 000

OTHER: 000

Card

3/3

ACCESSION NR: AP4031835

ENCLOSURE: 01

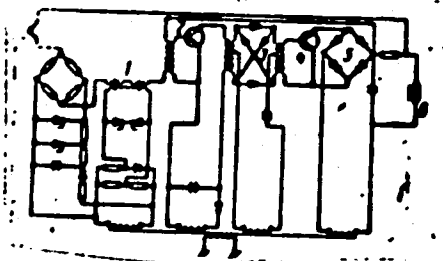


Fig. 1. Signal converter

1 - Magnetic amplifier; 2 - semiconductor amplifier; 3 - diode frequency divider; 4 - 6 - elements of the phase-sensitive output stage.

Card 3/3

BORISENKO, N.I.; BUTKEVICH, G.V.; VOPONETSKIY, B.B.; VASIL'YEV, D.V.;
DROZDOV, H.G.; DUBINSKIY, L.A.; ZALESSKIY, A.M.; KASATKIN, A.S.;
KOSTENKO, M.P.; KUZNETSOV, P.I.; KULEBAKIN, V.S.; MAMIKONYANTS,
L.G.; MEL'NIKOV, N.A.; NEYMAN, L.P.; PETROV, I.I.; RABINOVICH, S.I.;
SAMOKHVALOV, V.A.; SOLODOVNIKOV, V.V.; STEKLOV, V.Yu.; SYROMYATNIKOV,
I.A.; FEDOSEYEV, A.M.; CHILIKIN, M.G.; SHATALOV, A.S.; ZHEKULIN, L.A.

Petr Ivanovich Voevodin, 1884- ; on his 80th birthday. Elektrichestvo
no.9.92 S '64. (MIRA 17:10)

SOLOLOVNIKOV, V.V., doktor tekhn. nauk, prof., red.; KUTKOVA, L.B.,
inzh., red.

[Analytic adaptive automatic control systems] Analiticheskie samonastavlyaiushchiesia sistemy avtomaticheskogo upravleniia. Moskva, Mashinostroenie, 1966. 354 p.
(NIPA 10:2)

L 42012-65 ENT(d)/EPF(n)-2/ENP(v)/ENP(k)/ENP(h)/ENP(l) Po-4/Pq-4/Pf-4/Pg-4/
 Pae-2/Pu-4/Pk-4/Pl-4 IJP(c) WH/GS/BC
 UR/0000/65/000/000/0058/0093
 ACCESSION NR: AT5009730

AUTHOR: Solodovnikov, V.V. (Doctor of technical sciences, Professor); Semenov,
 V. V. 61
 B+1

TITLE: Synthesis of analytical adaptive systems

SOURCE: Analiticheskiye samonastroyayushchiyesya sistemy avtomaticheskogo upravleniya (Analytical adaptive control systems). Moscow, Izd-vo Mashinostroyeniye, 1965, 58-93

TOPIC TAGS: adaptive system, analytical system, adaptation algorithm, nonstationary system, open cycle adaptation, closed-cycle adaptation, correcting filter, favorable signal analysis, automatic control system

ABSTRACT: One of the authors (V. V. Solodovnikov, A.M. Batkov, Avtomatika i telemekhanika, 1957, 18, no. 5) previously presented the design principles and methods for the determination of analytical adaptive systems within the class of nonstationary systems of optimum dynamic characteristics. Next, he investigated (Analiticheskiye samonastroyayushchiyesya sistemy avtomaticheskogo upravleniya, Moscow, Izd-vo Mashinostroyeniye, First article) the principles for the establishment, formulation, and realization of adaptation algorithms for quasi-stationary cases. The present paper develops further the theory of analytical adaptive systems and outlines a method for the synthesis of adaptation

Card 1/2

L 42012-65

ACCESSION NR: AT5009730

algorithms for nonstationary systems freed from quasi-stationary conditions but containing a limited number of variables. A general formulation of the problem is followed by the synthesis of the optimum model of the control system, the specification of the required law describing the changes in dynamic errors, the study of the principles for the construction of devices for the analysis of the favorable signal, the synthesis of the correcting filter of a system using open-cycle adaptation, and the synthesis of circuits realizing closed-cycle adaptation. The results show that the passband of a open-cycle adaptation circuit may be made much narrower than in the case of closed-cycle circuits and, consequently, the open-cycle approach results in a better filtration of disturbances. Orig. art. has: 90 formulas and 18 figures.

ASSOCIATION: none

SUBMITTED: 15Dec64

ENCL: 00 SUB CODE: IE

NO REF SOV: 010

OTHER: 001

Card

ce
2/2

L 58344-65

Pg-4/Pae-2/Pu-4/Pk-4/P1-4 IJP(c) BB/WH/GG/BC EWT(d)/EPF(n)-2/EWP(v)/T/EWP(k)/EWP(h)/EED-2/EWP(1) Po-4/Pq-4/pf-4/

ACCESSION NR: AP5012881

UR/0280/65/000/002/0110/0122

AUTHOR: Solodovnikov, V. V. (Moscow); Semenov, V. V. (Moscow)

TITLE: Synthesizing computer adaptive systems 9

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 2, 1965, 110-122

TOPIC TAGS: computer adaptive control, automatic control, automatic control design, automatic control system, automatic control theory 16C

ABSTRACT: A method is reported of setting up algorithms for a computer-type adaptive nonstationary automatic-control system; the method allows for constraints imposed on the range of variables. In an open-loop system, the controllable changes of system characteristics depend on the computer extremum conditions. In a closed-loop system, the controllable changes are introduced for determining the extremum of (a) the control-purpose index and (b) the control-quality index (double optimization). Minimum of mean-square random error, at a

Card 1/2

the device evaluation for determination of current system. (4) Synthesizing the structure of a correcting adaptive system includes all of the above steps plus: (5) Synthesizing the control loops. Orig. art. has: 9 figures and 46 formulas.

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001652220004-9"

ASSOCIATION: none

SUBMITTED: 20Jul64

NO REF SOV: 011

ENCL: 00

OTHER: 001

SUB CODE: DP, IE

Card 2/2

ACC NR: AP6024359

SOURCE CODE: UR/0280/66/000/002/0011/0018

AUTHOR: Solodovnikov, V. V.; ^(Moscow) Lenskiy, V. L. ^(Moscow)

ORG: none

TITLE: Synthesis of minimum-complexity control systems

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 2, 1966, 11-18

TOPIC TAGS: minimization, control theory, computer design, variational problem

ABSTRACT: Normally the analytic synthesis of an optimal control system reduces to the variational problem of finding a control-system operator x assuring the extremum of a functional $I(x)$. Such an operator must belong in the narrowest class of a family of classes. This, however, leads to a deterioration in the quality criterion. In this connection, it is shown that the ensuing contradiction can be resolved by redefining the problem of the analytic synthesis of control systems. The minimum-complexity principle is defined: of all the operators with a given quality level, select the operator of minimum complexity with respect to a given scale of complexity. Use of the minimum-complexity principle leads to the conditional extremum problem: find the minimum of a continuous functional $G(x)$ on condition that the functional $I(x)$,

Card 1/2

ACC NR: AP6024359

representing a quality criterion of the control systems, equals the permissible quality level q of the system, i.e. $I(x) = q$. The solution of this problem reduces to the minimization of the functional $\mu G(x) + I(x)$, where μ is the Lagrange multiplier. The minimum complexity principle may be effectively utilized to synthesize control systems with improved technological and operational qualities, as exemplified by its applicability to a problem of the statistical dynamics of control systems: the filtration of transient signals, since the minimization of complexity, and hence also increase in μ , leads to a decrease in the volume of binary memory and simplification of the structure of the arithmetic device and control device. Orig. art. has: 28 formulas.

SUB CODE: 12, 09 / SUBM DATE: 17Mar65/ ORIG REF: 007/ OTH REF: 001

Cord 2/2

MITEL'MAN, Ye.L.; SOLODOVNIKOV, V.Ya.; STEPANOV, A.Ya., retsenzent;
BROUN, M.L., retsenzent; ETCHIN, G.A., redaktor; MATVEYEVA, Ye.N.,
tekhnicheskij redaktor; TIKHONOV, A.Ya., tekhnicheskij redaktor.

[Financial operations in machine construction plants] Finansovaya
deyatelnost' mashinostroitel'nogo zavoda. Moskva, Gos. nauchno-
tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1954. 219 p.

[Microfilm]

(MLRA 8:1)

(Machinery industry--Finance)

YUR'YEV, Nikolay Mikhaylovich; KIRILLOV, Ivan Akimovich; SATEL', E.A.,
doktor tekhn.nauk, prof., red.; KUZNETSOV, B.R., inzh., retsenzent;
SOLODOVNIKOV, V.Ya., ekon., retsenzent; TROITSKIY, P.A., ekon., red.;
SALYANSKIY, A.A., red.izd-va; UVAROVA, A.P., tekhn.red.

[Technical, industrial, and financial plan of a machinery manufacturing
plant] Tekhpromfinplan mashinostroitel'nogo zavoda. Pod red. Ye.A.
Satelia. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry,
1957. 232 p. (MIRA 11:3)

(Industrial management) (Machinery industry)

S. L. DAVNIKOV, Y. K.

Report to be presented at the 1st Int Congress of the Int Federation of Automatic Control, 25 Jun-5 Jul 1960, Moscow, USSR.

- LEVIN, A. Ya. - "The application of a self-adjusting system of automatic control".
- MAKOV, V. B., PINK, L. A., and K. G. - "Industrial telemechanics and digital techniques".
- MARTINOV, A. V. - "Some peculiarities of the structure of multi-channel systems".
- MARTINOV, A. V. - "Regulation systems".
- MARTINOV, A. V. - "Evaluation of the possibility of increasing the quality of telemechanics systems".
- MARTINOV, A. V. - "The problem of establishing routines in automatic regulation systems".
- MARTINOV, A. V. - "Principles of construction of digital double code automatic compensation".
- MARTINOV, A. V. - "On the relation of systems of automatic regulation with the parameters of periodic movements".
- MARTINOV, A. V., and K. G. - "Systems of automatic control of cutting of rolled metal on a continuous bar mill with the use of digital calculating machines".
- MARTINOV, A. V. - "Some principles of organizing systems of complex automation of large scale chemical production and optimization of these systems".
- MARTINOV, G. M. - "Systems of automatic regulation with intermittent change of parameters".
- MARTINOV, G. M. - "The synthesis of linear systems".
- MARTINOV, G. M. - "The invariant principle and its application in the calculation of linear and nonlinear systems".
- MARTINOV, G. M. - "The problem of autonomy in the technique of automatic control".
- MARTINOV, G. M. - "Some problems of synthesis of automatic control non-linear systems".
- MARTINOV, G. M. - "Method of determining the optimum system with non-linear relation of the observed function with the parameters of the signal".
- MARTINOV, G. M., and K. G. - "The development of the theory of relay devices in the USSR".
- MARTINOV, G. M. - "Dynamic characteristics of cores with right angle hysteretic winding and their influence on magnetic booster".
- MARTINOV, G. M. - "Variational methods of investigating the quality of automatic control systems".
- MARTINOV, G. M. - "Dynamics of automatic regulation of boiler-turbine units".
- MARTINOV, G. M., and K. G. - "Automatic control of composition of multi-component mixtures".
- MARTINOV, G. M., and K. G. - "Some results of work for the utilization of radioactive radiation for automatic control of mining machinery".
- MARTINOV, G. M., and K. G. - "Analysis and synthesis of automatic control systems with the aid of calculating machines".
- MARTINOV, G. M., and K. G. - "Problems in the synthesis of automatic control systems with the aid of calculating machines".
- MARTINOV, G. M., and K. G. - "Systems of alternating current electric drives with automatic synthesis".
- MARTINOV, G. M., and K. G. - "Apparatus for technical control of production with the use of nuclear radiation".
- MARTINOV, G. M., and K. G. - "Mathematical models of qualitative determination of type of trajectory".
- MARTINOV, G. M., and K. G. - "Elements of the theory of digital automatic systems".
- MARTINOV, G. M., and K. G. - "Stability of telemechanics systems".
- MARTINOV, G. M., and K. G. - "Intersection of a mathematical modeling and calculating technology experiment in calculating loads in electrical systems".

SOLODOVNIKOV, Yu.P.

Adenoviruses and adenovirus diseases; a review of the literature.
Sovet. med. 27 no.6:96-102 Je'63 (MIRA 17:2)

1. Iz kafedry epidemiologii I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova.

ГОРДОНОВИКОВ, Ю.Л.

Water and food-borne outbreaks of bacterial dysentery, review of foreign literature. Zhur. mikrobiol., epil. i immu. 40 no. 2 125-128 S'63. (MIRA 3715)

1. Iz I Moskovskogo ordena Lenina meditsinskogo instituta imeni Sechenova.

...and the

Water and food-borne outbreaks of typhoid and paratyphoid fevers; review of foreign literature for the past 15 years. *Ann. mikrobiol.*, ed. 1. Moscow, 10 no. 1964:126-136.

1955-1956

1. To I Moskovskogo ordena Lenina meditsinskogo instituta Ilena
Sudimova.

SOLODOVNIKOV, Yu.P.

Treatment of typhoid fever carriers: a review of foreign literature
for the past 15 years. Zhur.mikrobiol.,epid.i immun. 40 no.12:42-46
D '63, (MIRA 17:12)

1. Iz I Moskovskogo ordena Lenina meditsinskogo instituta imeni
Sechenova.

СОЛДОВНИКОВ, Ю.П.

Typhoid and paratyphoid infections abroad. Report No.2:
Comparative analysis of the morbidity and mortality in
typhoid and paratyphoid fever from 1921 until 1958. Zhur.
mikrobiol., epid. i immun. 41 no.12:53-58 D '64.
(MIRA 18:3)

1. I Moskovskiy ordena Lenina meditsinskiy institut imeni
Sechenova.

BOLODOVNIKOV, YU.F.

Typhous and paratyphous infections abroad. Report No.3: Some characteristics of the epidemiology of typhoid fever and paratyphoid fevers. Zhur. mikrobiol., epid. i immun. 42 no.1:77-81 Ja '65. (MIRA 18:6)

1. I Moskovskiy ordena Lenina meditsinskiy institut im. I.M. Sechenova.

SELOVA, NIKOLAI, Y. P., YAKUTCHIN, Y. S., NOZOVITSINA, P. S.

Typhoid fever in Tula during the period 1887-1962. Zhur. mikrobiol.,
epid. i imm. 42 no. 3:37-41 F '65. (MIRA 1316)

I. I. Moskovskiy ordena Lenina meditsinskii institut imeni Sechenova
i Tul'skaya gorodskaya sanitarno-epidemiologicheskaya stantsiya.

SOLDOVNIKOV, Yu.P.

Typhous and paratyphous infections abroad. Report No. 4: On the geography of typhous and paratyphous morbidity during 1956 - 1958. Zhur. mikrobiol., epid. i immun. 42 no.7:41-48 J1 '65.
(MIRA 18:11)

1. I Moskovskiy ordena Lenina meditsinskiy institut imeni I.M. Sechenova.

SOLODOVNIKOV, Yu.P.

Typhoid and paratyphoid bacterial carriers. Report No.2:
Once more concerning the role of bacterial carriers in the
distribution of typhoid and paratyphoid diseases; a review
of foreign literature. Zhur.mikrobiol., epid. i immun. 42
no.9:106-110 S '65. (MIRA 18:12)

1. I Moskovskiy ordena Lenina meditsinskiy institut imeni
I.M.Sechenova. Submitted May 8, 1964.

PEREPLETCHIKOV, Ye.G., dotsent kand.tekhn.nauk; SOLODOVNIKOV, Z.V.;
ZALESSKAYA, N.P.

Results of the experimental investigation of thermal fields on
surfaces of radiators operating at increased parameters of heat
carriers. Sbor. nauch. trud. Bel. politekh. inst. no.74:10-18
'59. (MIRA 13:8)

(Radiators)

SOLODOVNIKOVA, A. M., Cand. Tech. Sci. (diss) "Investigation of Underwater Relief by Stereophotogrammetric Method," Leningrad, 1961, 16 pp. (State Hydrological Inst.) 150 copies (KL Supp 12-61, 274).

ACC NR: AT6035351

SOURCE CODE: UR/2635/66/000/006/0108/0113

AUTHOR: Solodovnikova, A. M.

ORG: State Hydrological Institute (Gosudarstvennyy gidrologicheskiy institut)

TITLE: Investigation of the Ili River delta using colored aerial photographs

SOURCE: Leningrad. Gosudarstvennyy gidrologicheskiy institut. Sbornik rabot po gidrologii, no. 6, 1966, 108-113

TOPIC TAGS: photogrammetry, limnology, aerial photography, color film, river delta, aerial photo interpretation, hydrology, surface water, atmospheric evaporation, transpiration / Ili River Delta

ABSTRACT: For several years the State Hydrological Institute carried out field studies of the rate of evaporation from the water surfaces and transpiration from the reed growths in the Ili River delta of Kazakhstan. Aerial photographs were first used in this work in 1955-1956 by the Limnology Laboratory of the Academy of Sciences SSSR. At this time, N. P. Smirnov, who directed the operations, found that black-and-white photography was inadequate for many purposes, and he recommended using the equipment and techniques used in the study reported in the present paper. On the SN-2 spectrozonal film used,

Card 1/3

ACC NR: AT6035351

features which reflected infrared rays appeared green, those which reflected reds came out as purples, and intermediate ranges as gray-greens. The study successfully determined the following information: area of present delta--8970 km², total area of delta covered by open water bodies--1081 km² (12%), area covered by reeds--2579 km² (29%), and semidesert areas of the delta--5309 km² (59%) (see Fig. 1). Orig. art. has: 1 figure and 2 tables. [W.A. 50]

Card 2/3

ACC NR: AT6035351



Fig. 1. Sketch of the Ili River delta

1 - Limits of delta; 2 - undergrowth (shrub growth); 3 - semidesert vegetation; 4 - saxsaul; 5 - canes; 6 - sandy ridges and the ridge direction; 7 - sandy hills.

SUB CODE: 08/ SUBM DATE: none/ ORIG REF: 001

Card 3/3

ACC NR: AP7001409

(A)

SOURCE CODE: UR/0413/66/000/021/0110/0110

INVENTOR: Fokina, T. A.; Apukhtina, N. P.; Klebanskiy, A. L.; Nel'son, K. V.;
Solodovnikova, G. S.

ORG: none

TITLE: Preparative method for polyurethans. Class 39, No. 188004 [announced by All-Union Scientific Research Institute of Synthetic Rubber im. Academician S. V. Lebebev (Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 21, 1966, 110

TOPIC TAGS: polyurethan^{synthesis}, chemical synthesis, diisocyanate, diene, olefin

ABSTRACT: An Author Certificate has been issued for a preparative method for polyurethans from diisocyanates and telomers of dienes, olefins or their mixtures. [B0]

SUB CODE: 11, 07/ SUBM DATE: 29May65/ ATD PRESS: 5109

Card 1/1

UDC: 678.664

BELYAROV, Yu.I., kand. tekhn. nauk; KETUNIK, A.V., inzh.; SOLODNIKOVA, G.S., inzh.

Using artificial caving of the blasted rock in strip mines. Gor.
zhur. no.3:20-23 Mr '65. (MIRA 18:5)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proektnyy institut
ugol'noy, rudnoy, neftyanoy i gazovoy promyshlennosti UkrSSR, Kiyev.

FOKINA, T.A.; FOKINA, N.P.; KLEBANSKIY, A.L.; SOLODOVNIKOVA, G.S.;
KLEBANSKIY, K.V.

and telomers of styrene obtained in the presence of Friedel-Crafts
catalysts. Vysokom. soed. 7 no.5:946-947 My '65. (MIRA 18:9)

ZHUKOV, V.A., dotsent, kandidat tekhnicheskikh nauk; TAGUSHEVA, L.D.,
assistant; SOLODOVNIKOVA, K.S., laborant; LEBEDEVA, P.I.

Catalytic cracking of vapor-gas products of coal semicoking.
Trudy LIEI no.9:97-106 '55. (MLRA 9:9)

(Coke) (Cracking process)

19

ca SOLODOVNIKOVA

Mullite formations in ceramic bodies. L. SOLODOVNIKOVA. Trans. Ceram. Research Inst. (Moscow) No. 23, 45-56(1930).—By microscopical investigations of different ceramic bodies, S. found mullite formations, the size and quantity of which depend on the temp., duration of firing and porosity. The investigation of a porcelain tube of a thermo element subjected to a temp. of 1600° showed the body changed into a vitrified ground mass with mullite as needle crystals. Their prism angle was 89°30'; $n_p = 1.658$ and $n_g = 1.643$; double refraction = 0.125; $2V = +49°30'$. An old glass-melting pot showed crystalline mullite needles with n of 1.64 to 1.65 and a double refraction of about 0.12. Several kaolin cones, grog pieces and mixes of kaolin and Al₂O₃ were also studied. M. V. KONDOROV

ASD S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

SOLODOVNIKOVA, L.F. Inzh

Bricks

Steam wetting of clay and accelerated drying of raw bricks at the Moscow brick plants.
Buil Stroi. tekhn.9, No.6, March 1952 TSIINS

Monthly list of Russian Accessions, Library of Congress August 1952, Unclassified.

SECRET

400

1. SOVA R. A., L. P.; Incl.

2. 1951 (00)

4. Building Materials

5. Plant for dry gypsum plaster and gypsum boards (blocks) in Kiev.
Sov. Str. J. Tekh. 9, no. 7, April 1954
Tabl. 1

6. Mont. 1: List of Russian accessories, Library of Congress, August 1952,
Incl. 1-11 d.

PA 228T69

SOLODOVNIKOVA, L. F.

USSR/Engineering - Construction, 2 May 52
Materials

"Slag-Concrete Block Plant in Kiev," L. F. Solodovnikova, *Engr, Tsini*

"Byul Stroit Tekh" No 9, pp 20-24

Plant, operated by Min of Residential Constr
Ukrainian SSR, has all technological processes
mechanized. It uses Portland-cinder cement as
blender and presently has under construction in-
stallation for producing lime-slag cement at an-
nual rate of 7,500 tons. In addn to various
types of cinder blocks, plant fabricates sectional
ceiling beams with stressed reinforcement. Annual
ceiling-beam production capacity amounts to 18,000
sq m. Technological process described.

228T69

SOLODOVNIKOVA, L. F.

USSR/Engineering - Construction, 15 May 52
Materials

"Ceramic Block Plant in Kiev," L. F. Solodovnikova,
Kiev, TAILINS

"Byul Stroit Tekh" No 10, pp 11-15

PA 228T73
Describes procedure of fabricating hollow ceramic
blocks of "Standard" type, which are used not only
for walls but also, in form of beams, for flooring.

States that beams made of ceramic blocks at Kiev
plant are used on constantly increasing scale in
civil engineering, having especial significance
for the Ukraine, since they substitute for wooden
beams made of timber which has to be brought from
distant places.

228T73

KOVEL'MAN, I.A., kandidat tekhnicheskikh nauk; SOLODOVNIKOVA, L.F., inzhener,
redaktor.

[Gypsum tiles and sheets for partitions and dry plastering] Gipsovye plity
i listy dlia peregorodok i sukhoi shtukaturki. [Doklad podgotovlen I.A.
Kovel'manom] Moskva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitekture,
1953. 25 p. (MLRA 6:10)

1. Moscow. Tsentral'nyy institut informatsii po stroitel'stvu.
(Gypsum) (Plastering)